cation which he can hardly have had in mind: "It is only if a departure from average occurred of an order of magnitude completely isolated from all other departures that the 'abnormality' would be truly abnormal *and worthy of special investigation.*" [Italics mine.—B. M. V.] There have been occasional references of late, particularly in British meteorological publications, to the great desirability of including the dissection of individual depressions in our research into the structure of cyclones—of going into what some one has called micrometeorology. Few will disagree with this view. The consequences to meteorology would be serious indeed, were it generally maintained that departures from normal are unworthy of special investigation because they never exceed a certain order of magnitude and are never produced by unusual causes. It may be suggested that those cyclones which have brought about rare abnormalities are perhaps most worthy of special investigation, for the reason that they are striking examples of a type.—*B. M. Varney.*

THE LONDON FOG OF JANUARY 10–11, 1925

[Abstracted from Meteorological Magazine, February, 1925, pp. 7–9]

The heavy fog on the above date followed a month after the great fog of December, 1924. Mr. L. C. W. Bonacina, having made a very thorough series of observations in various parts of London on the occasion of the January fog, notes that two distinct types of "fog" occurred simultaneously, though singly or together according to locality. In the densely built-up streets of central London "the fog took the form of a dark, pungent, unsaturated haze, leaving pavements and clothes perfectly dry and causing little hindrance to traffic, the visibility being at least 50 yards." But in all open spaces, such as parks, squares, etc., the fog took the "form of great rolling blankets, very wetting and impenetrable to vision and completely paralyzing traffic."

The point is emphasized that a clearer distinction ought to be made between those fogs which should be regarded as smoke haze and the fog which is a combination of smoke haze and water droplets. It is the latter type which makes the serious trouble. The inference is drawn that if the smoke factor could be eliminated inner London would experience far less fog than suburban London and the more open country round about, where radiation fog so readily results from nocturnal radiation.

Discussing Mr. Bonacina's note, Mr. F. J. W. Whipple points out that the existence of the purely smoke haze in the densely built-up area may have been the result of the evaporation of water-fog particles on account of the warmth of pavements, air from buildings, etc. Great fogs attain a thickness of some 500 feet over London. Radiation cooling at the upper surface of the fog is believed to be intense enough to set up a convectional circulation between this upper surface and the ground and consequently to result in the constant bringing down of smoke particles, thus keeping the smoke haze black in the streets.

[It would be of interest to have comparative observations on the nature of the fog at street level in central London and on the highest buildings or towers in the same locality at the same time. Such observations might well show that above the smoke haze of the streets distance from sources of warmth permits the existence of the combination smoke haze and water fog of the same nature as that which is found at ground level in the parks and squares.]—*B. M. V.*

MEASUREMENT OF UPPER-WIND VELOCITIES BY OBSERVATIONS OF ARTIFICIAL CLOUDS

By C. D. STEWART

[Abstract accompanying B. M. O. Professional Notes, vol. 33, No. 38]

This paper gives the theory and practical details of the method of obtaining upper wind velocities from observations of clouds in a mirror. The apparent path of a cloud is traced on the surface of a Hill mirror, and from the length of the trace on the mirror the wind velocity at the height of the cloud is computed by simple multiplication by the use of a table of factors given in the text. The method was first used with shell bursts during the war, but the paper describes how it has been extended to include observations of clouds discharged from airplanes. Tables are given to enable the pilot to correct his height to the necessary degree for any readings of his altimeter and thermometer. The method is extremely simple in use.

WARM AND COLD WINTERS IN SIBERIA AND THEIR DEPENDENCE ON THE CONDITION OF THE GULF STREAM [1]

W. B. Schostakowitch, in Meteorologische Zeitschrift for January, 1925, presents a résumé of his studies on the above subject, including tables which recapitulate the most important results and statements of his conclusions as to the various relations between the Gulf stream and Siberian winter temperatures. The work was based on the records of 13 stations, and December, January, and February were taken as the winter months.

In 16 out of 22 winters temperature departures had the same sign throughout Siberia except along the borders. In one winter plus and minus departures were variously distributed; in two winters, eastern and western Siberia showed opposite departures; in three winters, central Siberia showed departures of the same sign throughout the area but opposite to the departures in the west.

Thirty years of record at Irkutsk show the anomalies of pressure and temperature to have had opposite signs in 73 per cent of the cases. In the average, negative pressure anomaly of 1 mm. coincided with a positive temperature anomaly of 0.98° C.; a positive pressure departure of 1 mm. coincided with a negative temperature departure of 1.1° C. A correlation coefficient of —0.646 with a probable error of —0.072 was found for the pressure-temperature relation.

Underdevelopment of the Siberian anticyclone, rather than displacement of it, is found to be characteristic of the winters with plus temperature anomaly, whereas in the cold winters the whole of Asiatic Russia is overlaid by abnormally high atmospheric pressure. The typical warm-winter pressure distribution favors invasion of central Siberia by cyclones from northwestern Europe,

[1] The following comment, questioning the appropriateness of the name "Gulf Stream," especially as applied to the waters adjacent to the northwest coast of Europe, is made by Mr. J. N. Nielson, of the Meteorological Institute of Copenhagen, in a note on the hydrography of the *Dana* Expedition (1921–22 in the Atlantic Ocean) printed in *Nature* for April 11, 1925, pp. 529–530. Mr. Nielsen's observation is of particular interest because it divides what is generally called in this country the North Atlantic drift into two parts with radically different characteristics. "In the waters south of Newfoundland the Florida current meets the Labrador current, giving rise to a mixed product with somewhat lower temperature and salinity than are found in the continuation of the Antille current, which runs on the right side of the Florida current and consists of water masses which keep outside the islands of the Antilles. • • •

"The mixed product arising from the Labrador and Florida currents fills the considerable area of sea south of Iceland, while the warm and salt water washing the coasts of northwest Europe is undoubtedly mainly derived from the Antille current. The term 'Gulf Stream', generally employed in European parlance to denote the warm current in the northeastern part of the Atlantic, must therefore be regarded as inappropriate, since it can only rightly apply to the current off the east coast of the United States, and even this would be better designated by the older name of "Florida current," as the current in question does not originate in the Gulf of Mexico, but comes from the equatorial region, and covers only the shortest possible distance in the Gulf of Mexico."